

Method and apparatus for purification of argon

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Abstract of TW 453974 (B)

The object of this invention is to provide a purification method for argon which involves simple steps with low consumption of energy resources. The impurities in argon gas at least consist of nitrogen, carbon monoxide, oxygen and methane. The argon gas, after its addition of oxygen, is introduced into a carbon monoxide oxidizing tank (31). In the carbon monoxide oxidizing tank (31), carbon monoxide is oxidized into carbon dioxide in the presence of a catalyst. The argon gas released from the carbon monoxide oxidizing tank (31) is added with hydrogen and then introduced into a deoxidizing tank (33). In the deoxidizing tank (33), hydrogen and oxygen react in the presence of a catalyst to form water. In the decarbonizing drying unit (50), carbon dioxide and water are removed from the argon gas using an absorbent. After subjecting to a liquefying treatment in the main heat exchanger (60), the argon gas is introduced into the fractionating tower (70). In the fractionating tower (70), a fractionation step is performed using the argon-based reflux liquid. Nitrogen is separated from the condensed argon gas through the top portion (76), while methane is separated from the condensed liquid argon through the bottom portion (77), and argon gas of high purity is simultaneously recovered from the mid-section, of the fractionating tower.

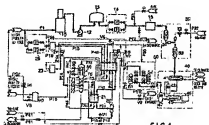


FIG. 1

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